ICF-C20RDS

SERVICE MANUAL

AEP Model
UK Model

SPECIFICATIONS

Time display:
UK: 12-hour system
Other countries: 24-hour system

Frequency range:

Band	Frequency range	Channel step
FM	87.5–108 MHz	0.05* MHz(fixed)
AM (MW)	531–1,602 kHz	9 kHz(fixed)
LW	153–279 kHz	9 kHz(fixed)

* The frequency display is raised or lowered by a step of 0.1 MHz. (Example:Frequency 88.05 MHz is displayed as "88.0 MHz".)

Intermediate frequency:
FM: 10.7 MHz, AM (MW): 450 kHz

Speaker:
Approx.6.6 cm (2 5/8 inches) dia., 8Ω

Power output:
250 mW (at 10 % harmonic distortion)

Power requirements:
UK: 240V AC, 50 Hz
Other countries: 220–230V AC, 50 Hz

Dimensions:
Approx.201 × 68.2 × 147 mm (w/h/d)
(8 × 2 3/4 × 5 7/8 inches) incl. projecting parts and controls

Mass:
Approx.690 g (1 lb 8 oz)

Accessory supplied:
FM antenna coupler (1, Models for Netherlands, Belgium, Switzerland and Scandinavia only)

Design and specifications subject to change without notice.

Note

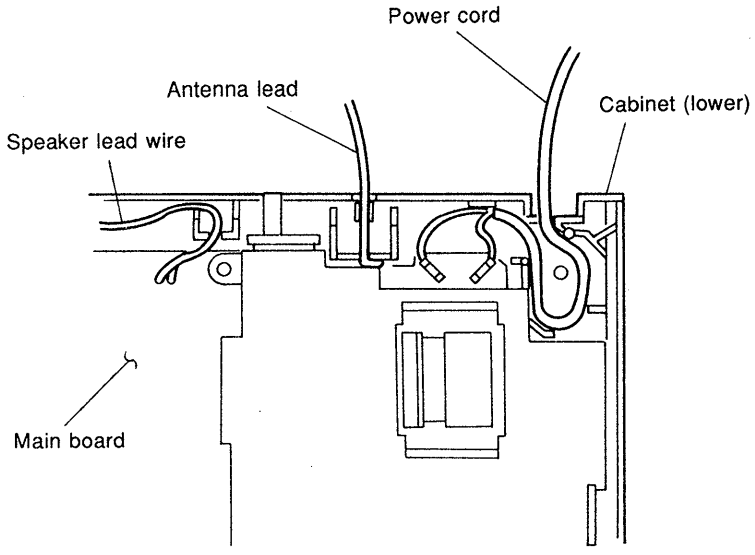
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

FM/AM RDS CLOCK RADIO
FM/MW/LW 3BAND RDS CLOCK RADIO

SONY®

SECTION 1
SERVICING NOTE

CORD DRESSING
(POWER, ANTENNA, SPEAKER)



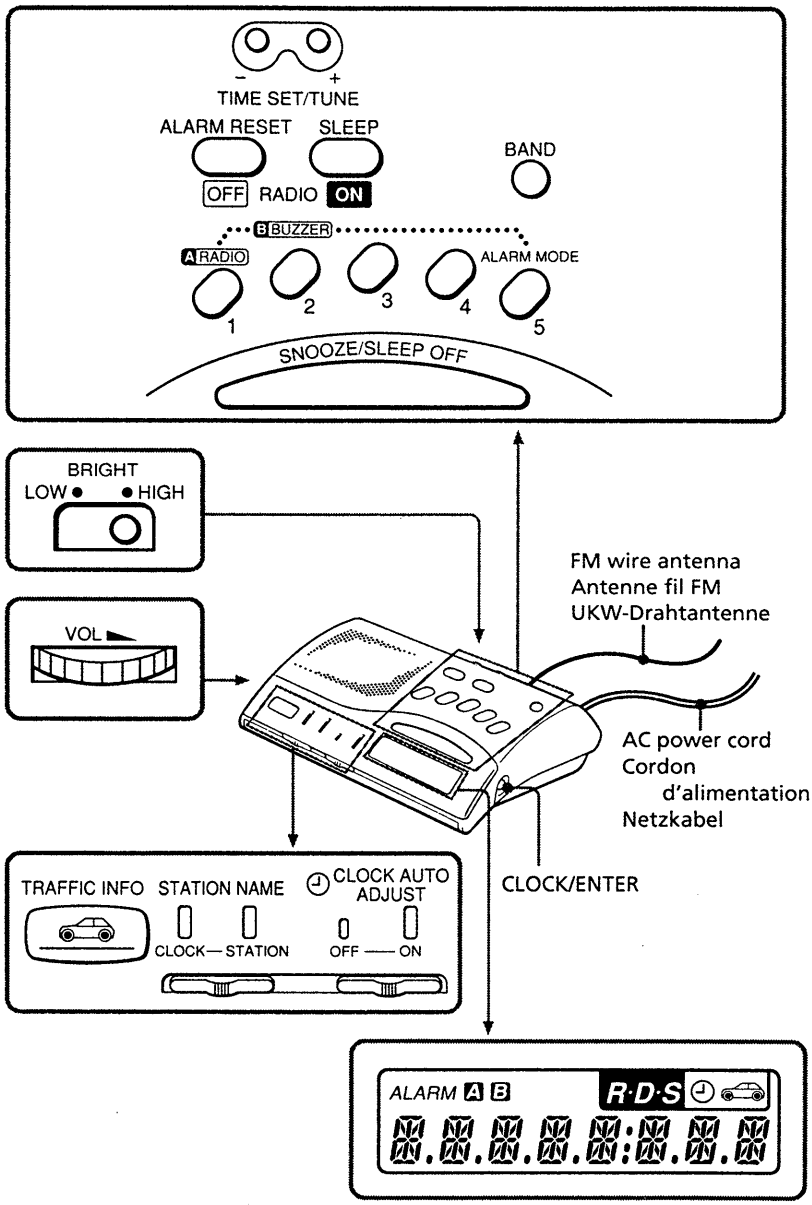
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

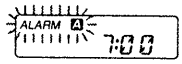
This section is extracted from instruction manual.



Setting the Alarm

You can set the radio and buzzer alarms.

1. Turn off the radio.
2. While holding down **A RADIO** or **B BUZZER**, press either **TIME SET/ TUNE** – or + till the desired time appears in the display window. **"ALARM A"** or **"ALARM B"** flashes while these buttons are being held down.



3. When you release **A RADIO** or **B BUZZER**, the alarm time is set. The indication shows the current time.
4. Press **ALARM MODE** till the alarm you want to set appears in the display. Every push changes the alarm indication as follows.

No alarm → ALARM A → ALARM B
↑ ALARM A B ↵

When you want to set both **A RADIO** and **B BUZZER** alarm, set both **A RADIO** and **B BUZZER** alarm time by performing steps 2 and 3 above.
The radio or buzzer will automatically sound at the preset time, and automatically turn itself off after 60 minutes, unless it is turned off manually.

- To shut off the alarm manually, press **RADIO OFF/ALARM RESET**. The alarm will come on at the preset time the next day.
- To cancel the alarm before the alarm time, press **ALARM MODE** till the appropriate alarm indication disappears.
- To check the preset time, press **A RADIO** or **B BUZZER**.

Notes

- When the radio alarm comes on, **"ALARM A"** indication flashes. If you want to keep on listening to radio and stop flashing, press the **RADIO ON/SLEEP**.
- The buzzer sound level is fixed, and independent of the **VOL**.
- If you set **A RADIO** and **B BUZZER** to the same desired time, only **A RADIO** will work.

To Doze for a Few More Minutes

1. Press **SNOOZE/SLEEP OFF**.
   The radio or buzzer will shut off but will automatically come on again after about 8 minutes.
   You can repeat this process within 1 hour.

- When the snooze alarm function is operating, the alarm indication flashes.

Setting the Sleep Timer

Enjoy falling asleep to the radio using the built-in sleep timer that shuts off the radio automatically at a preset time.

1. Press **RADIO ON/SLEEP** repeatedly.
   The radio turns on. You can set the sleep timer of about 90, 60, 30 or 15 minutes.
   Every push changes the display as follows.

   Current time → On → 90
   ↑ ↓
   15 ← 30 ← 60

The radio will play for the time you set, then shut off.

To Use Both Sleep Timer and Alarm Function

You can fall asleep to the radio sound and be awakened by the radio/buzzer alarm at the preset time.

1. Set the alarm. (See "Setting the Alarm".)
2. Set the sleep timer. (See "Setting the Sleep Timer".)

Note

When the alarm time arrives while the sleep timer is working, the sleep timer is canceled and the alarm sounds.

Using the RDS Function

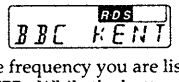
The following functions are available with this unit using the RDS data.

Station Service Name Display

This function displays the name of the currently tuned station in the display window.

1. Select the **FM** band.
2. Tune in a desired station by using Manual tuning or Preset tuning.

If the unit receives a station transmitting the RDS data, "RDS" lights and the name of that station will appear in the display window. When the unit cannot receive the RDS data, "RDS" turns off.



To check the frequency you are listening, press **CLOCK/ENTER**. While the button is being held down, the frequency appears in the display.

Notes

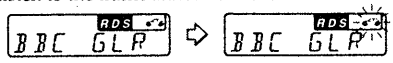
- The RDS data can be received only on the FM band.
- The RDS function of this unit will not be activated if the FM station being received is not transmitting the RDS data.
  It may also not work properly in areas where the RDS transmissions are in the experimental stage.

Receiving Traffic Announcements

This function searches and stands by for a traffic information using TP(Traffic Programme) and TA(Traffic Announcement) data.
Using this function, the unit automatically searches the traffic information from the station you are listening to, and changes its mode to receive the traffic announcement when the broadcasting starts.

1. Select the **FM** band.
2. Press **TRAFFIC INFO** to get "🚗" while "RDS" appears.
   Reception of a traffic announcement is standing by.

The search for a traffic information starts.
When a traffic announcement starts, "🚗" starts flashing and the sound becomes louder. You can listen to the traffic announcement.



Notes

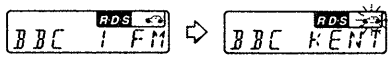
- When the station you are listening to, is not a traffic information station nor station with EON data, a beep sounds.
- When the RDS data is not received continuously, "🚗" disappears in the display window even if the reception of a traffic information is standing by.
- When the radio is off, the traffic announcement is not functioned.

Enhanced Other Networks EON

The EON function extends the faculty of the TP and TA function by enabling the unit to track other stations transmitting the EON data while it is tuned to a network station.

If the unit is receiving a station which is transmitting the EON data while "🚗" appears in the display window, it will automatically tune to another station (same network) when the station starts broadcasting a traffic announcement.

Example: While you are listening to the BBC 1 broadcasting when the traffic information starts at the BBC KENT station, the unit tunes to the station automatically.



When the announcement is over, the unit will retune to the previous station.

- To stop the traffic information, press **TRAFFIC INFO**. The unit tunes to previous station automatically.

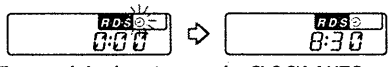
Notes

- If the MW or LW band is tuned in while the "🚗" indicator is in the display window, "🚗" turns off automatically. When you tune in FM again, "🚗" lights.
- If you press **TRAFFIC INFO** when the radio is turned off, this function does not work.
- Even when the volume is turned down, when the traffic announcement starts the sound becomes normal level.
- If the station has several frequencies, the unit will tune one by one automatically.
- In a case that stations are preset in the preset memories by preset tuning, the radio will choose the frequencies from the preset memories.

Setting the Clock Using the CT Function of the RDS

The CT function of the RDS enables the built-in clock in the unit to automatically synchronize with the CT data being received.

1. Set the **STATION NAME** switch to **CLOCK**, while "RDS" appears in the display.
   The current time appears in the display window.
2. Set the **CLOCK AUTO ADJUST** switch to **ON**.
   The CT function activates and "🕘" starts to flash in the display window. When the current time is set by the CT data, "🕘" lights.



To cancel the function, set the **CLOCK AUTO ADJUST** switch to **OFF**.
If the CT function is being activated while you adjust the clock manually, the clock will be automatically adjusted by the CT data the next time the unit receives it.

Note

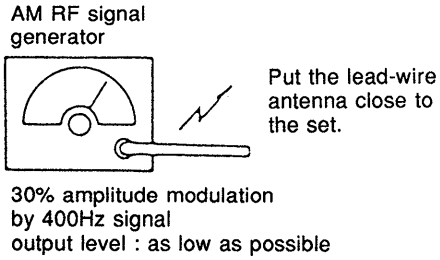
There may be cases when the CT function may not be activated in some areas or stations. In this case, set the **CLOCK AUTO ADJUST** switch to **OFF**.

SECTION 3
ELECTRICAL ADJUSTMENTS

• MW/LW Section

Setting :

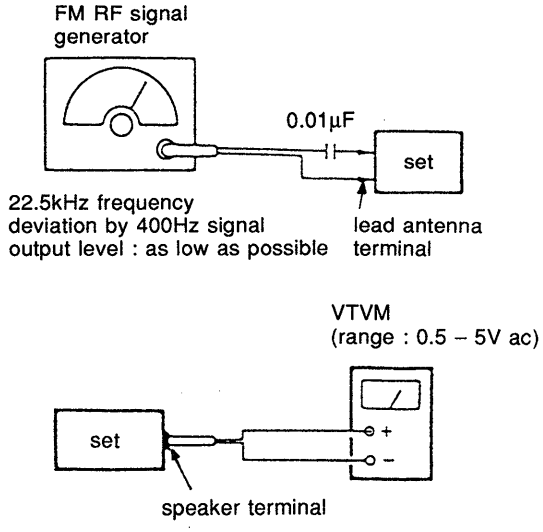
BAND switch : MW/LW



• FM Section

Setting :

BAND switch : FM



- Repeat the procedures in each adjustment several times, and the frequency coverage and the tracking adjustments should be finally done by the trimmer capacitors.

MW IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
L7
450kHz

MW VCO VOLTAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
L6	531kHz	2.7V ± 0.1V
(confirmation)	1,602kHz	8.6V ± 0.1V (check)

Note : Not use the AM RF signal generator in this adjustment.

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
621kHz	1,404kHz

LW VCO VOLTAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
CT4	153kHz	2.2V ± 0.1V
(confirmation)	297kHz	8.6V ±1.0V (check)

Note : Not use the AM RF signal generator in this adjustment.

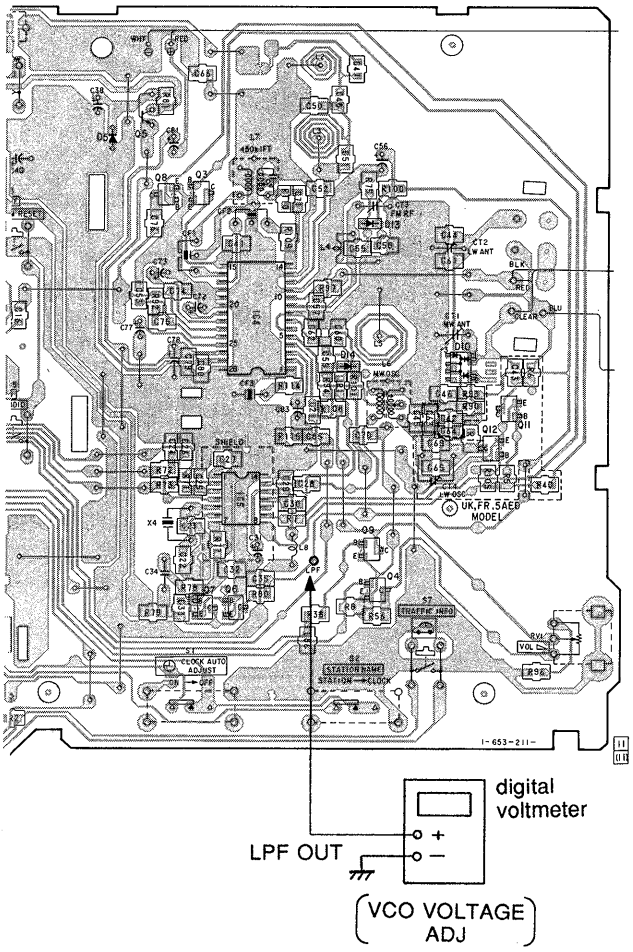
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT2
162kHz	243kHz

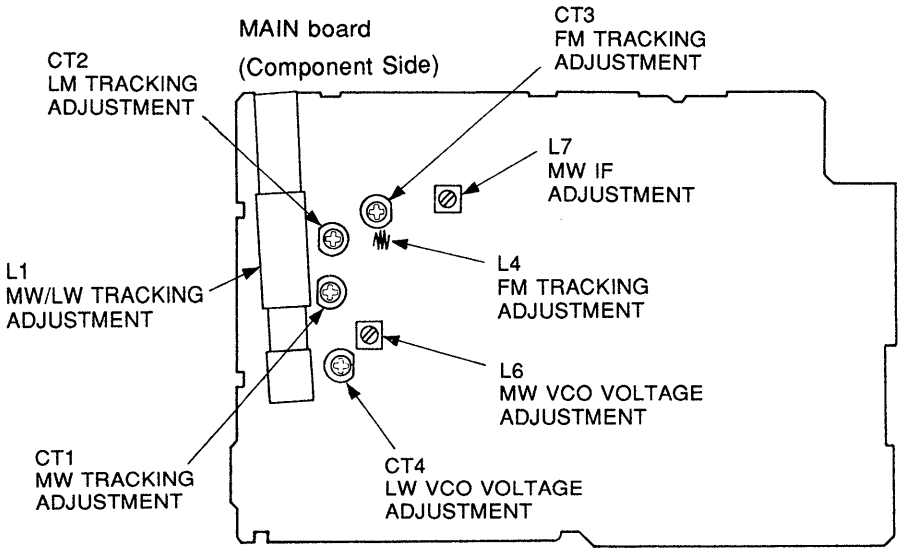
FM VCO VOLTAGE CHECK		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
(confirmation)	108.0MHz	9.0V ± 1.5V (check)
(confirmation)	87.5MHz	2.0V ± 0.3V (check)

Note : Not use the FM RF signal generator in this adjustment.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	CT3
87.5MHz	108MHz

Adjustment Location : MAIN board (Conductor Side)

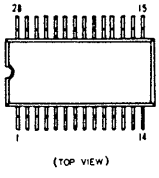




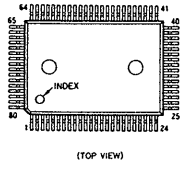
SECTION 4
DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

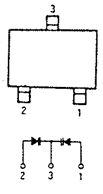
CXA1019M



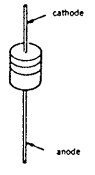
μPD75308-SR7190



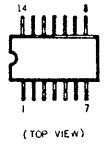
KV1560



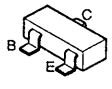
SLZ-235C-15



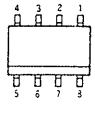
CXD1118M



DTA144EK
2SA1162G
2SC2712-YG
2SC2714-Y

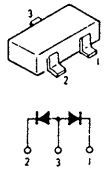


KV1563M-3

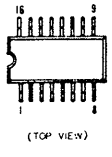


1 : ANODE 4 : N. C. C
2, 7 : CATHODE 1 5 : ANODE 2
3, 6 : CATHODE 2 8 : N. C.

1S2836

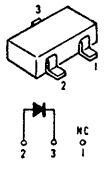


SAA6579T

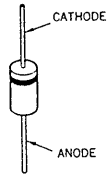


2SC2001TP-K1K2

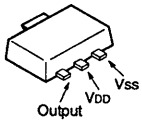
SB007-03CP



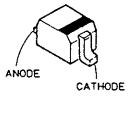
10E2



S-80728AN-DR



DTZ5.1C
1T362

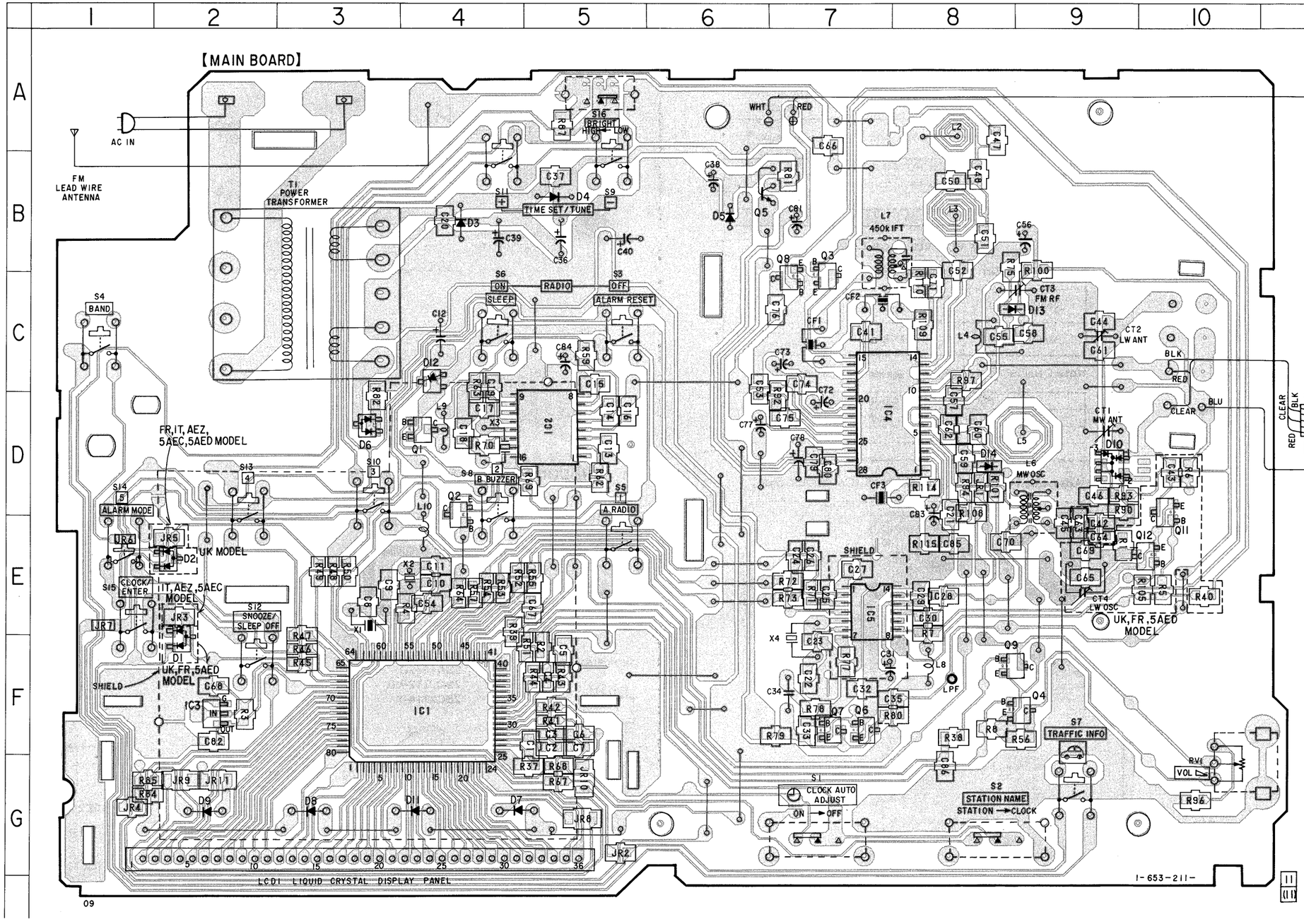


4-2. PRINTED WIRING BOARD

• See page 6 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D1	F-2
D2	E-2
D3	B-4
D4	B-5
D5	B-6
D6	D-3
D7	G-4
D8	G-3
D9	G-2
D10	D-9
D11	G-4
D12	C-4
D13	C-8
D14	D-8
IC1	F-4
IC2	D-5
IC3	F-2
IC4	D-7
IC5	E-7
Q1	D-4
Q2	E-4
Q3	C-7
Q4	F-8
Q5	B-6
Q6	F-7
Q7	F-7
Q8	C-7
Q9	F-8
Q11	E-10
Q12	E-10

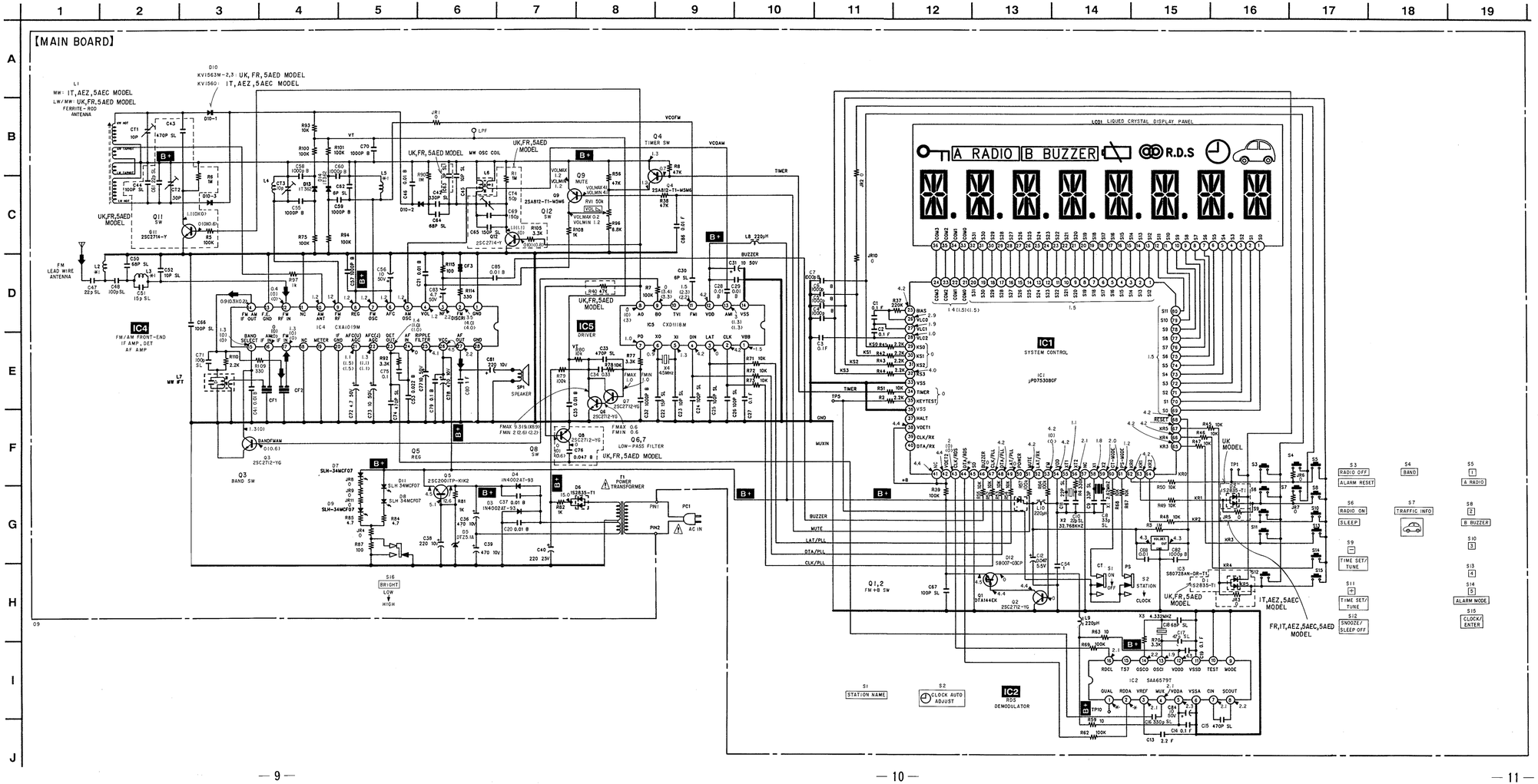


Note:

- ○—— : parts extracted from the component side.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing.

4-3. SCHEMATIC DIAGRAM

- See page 12 for IC Block Diagrams.
- See page 13 for IC Pin Functions. (IC1)



Note:

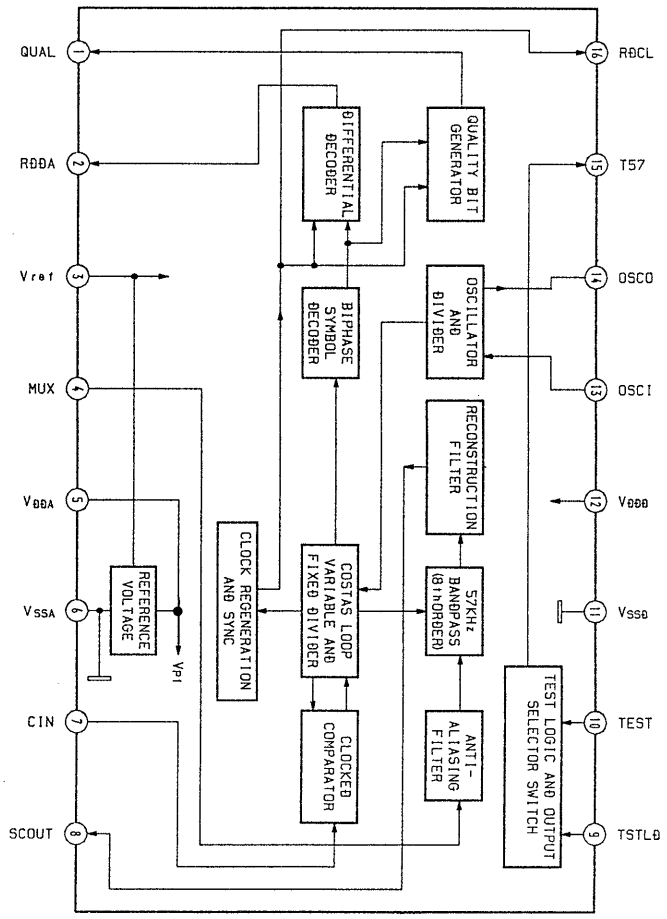
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

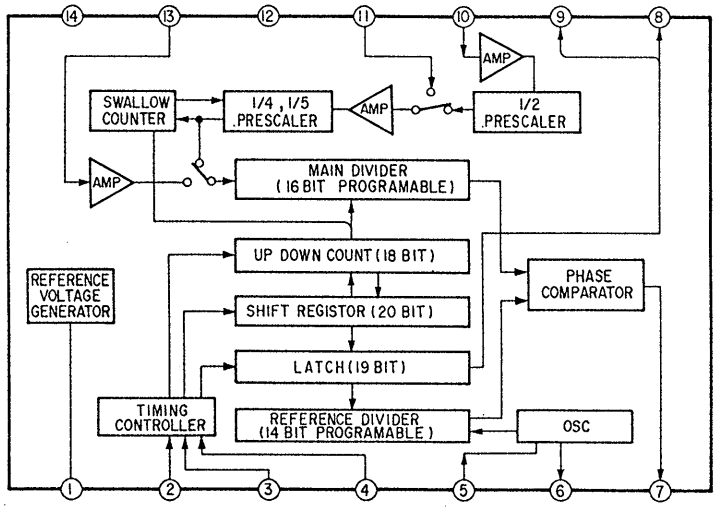
- **B+** : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (deturned) conditions.
  no mark : FM
  ( ) : MW
  < > : LW
  * : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- *1 : Printed pattern functions as a kind of coil.
- Signal path.
  ➡ : FM

4-4. IC BLOCK DIAGRAMS

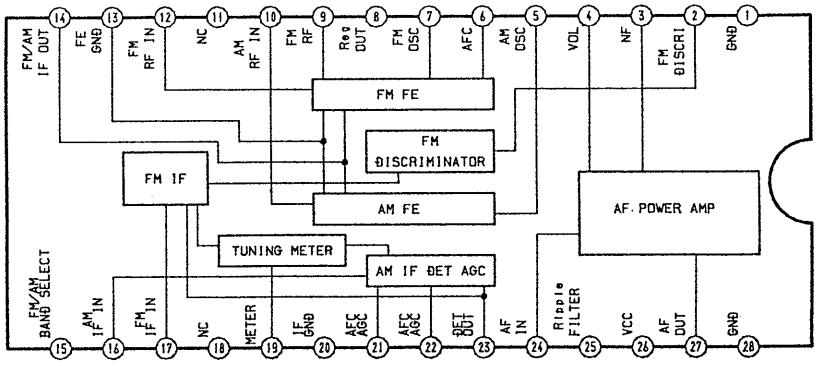
IC2 SAA6579T



IC5 CXD1118M



IC4 CXA1019M



4-5. IC PIN FUNCTIONS

- **μPD75308GF-R90-3B9 (IC1)**

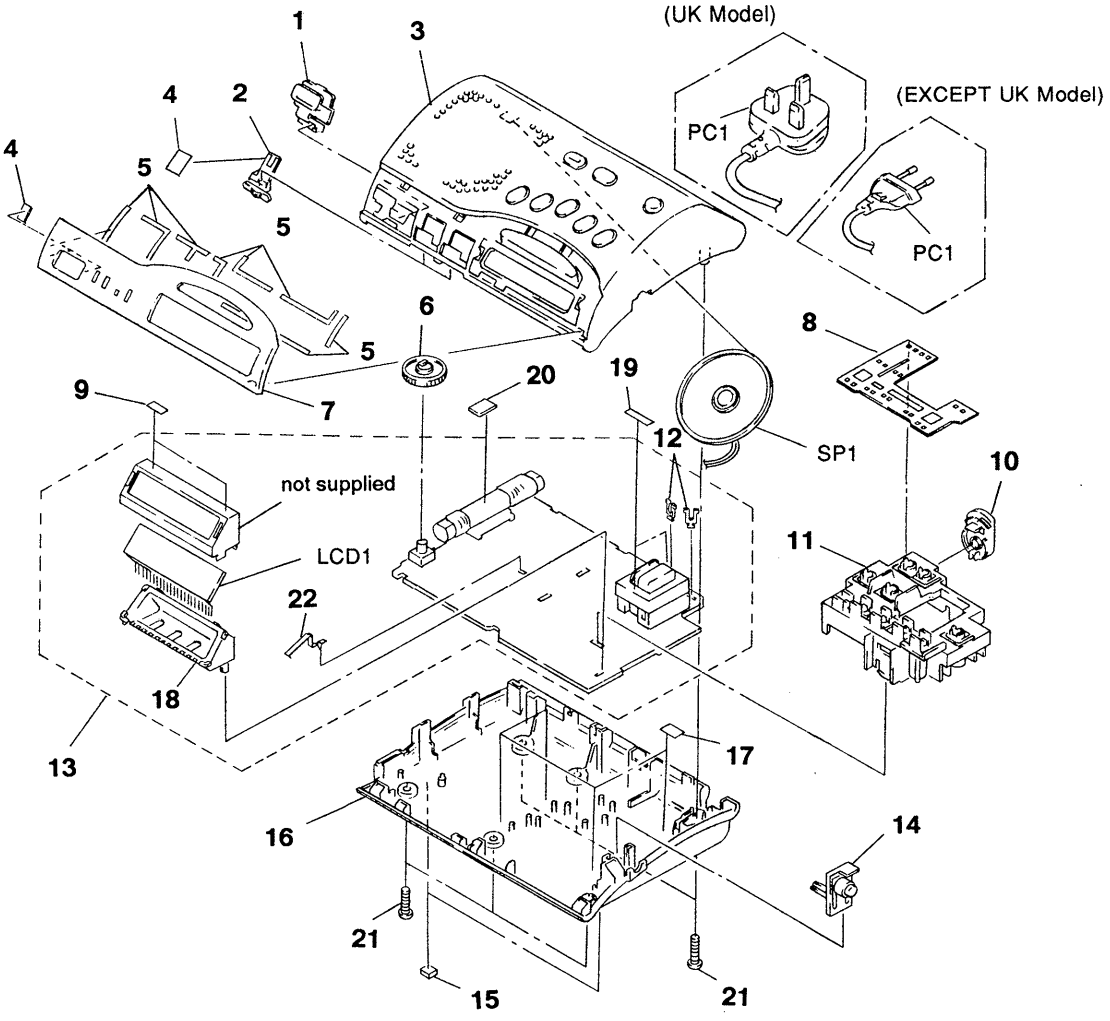
Pin No.	Pin Name	I/O	Function
1 to 20	S12 to S20	O	LCD indication segment.
21 to 24	COM0 to COM3	O	LCD indication common.
25	BIAS	O	Bias output.
26 to 28	VLC0 to VLC2	–	Power supply of LCD DRIVER.
29 to 32	KS0 to KS3	O	Key source.
33	VSS	–	GND
34	TIMER	O	TIMER. (H: Alarm operation at radio, turn up the volume slightly when a traffic information is received)
35	KEYTEST	O	L: Under the key test.
36	VSS	–	GND
37	HALT	O	H: When HALT operating. (Not used)
38	VDET1	I	Reduced voltage detection 1. (L: Reduced voltage)
39	CLK/RX	O	Receiving level output clock. (Not used)
40	DTA/RX	O	Receiving level output data. (Not used)
41	NC	–	Not used.
42	VDET2	I	Reduced voltage detection 2. (L: Reduced voltage)
43	CLK/RDS	I	RDS clock.
44	DTA/RDS	I	RDS data.
45	SD	I	Station signal. (L: A broadcasting station is existed)
46	BUZZER	O	Buzzer output.
47	CLK/PLL	O	PLL clock.
48	DTA/PLL	O	PLL data.
49	LAT/PLL	O	PLL latch.
50	POWER	O	Power supply of radio. (H: Power on)
51	MUTE	O	Mute. (L: Mute on)
52	LAT/RX	O	Receiving level output latch. (Not used)
53	FM	O	FM output. (H: When FM receiving)
54	VDD	–	Power supply. (+5V)
55	XT1	O	Crystal oscillation. (32.768 Hz)
56	XT2	I	
57	NC	–	Not used.
58	X1	O	Ceramic oscillation. (2.62 MHz)
59	X2	I	
60	CT-MODE	I	CT mode switching switch. (L: Automatic time setting, H: Non)
61	PS-MODE	I	PS indication switching switch. (L: Frequency/station name indication, H: Present time indication)
62 to 67	KR0 to KR5	I	Key return.
68	$\overline{\text{RESET}}$	I	Reset.
69 to 80	S0 to S11	O	LCD indication segment.

SECTION 5
EXPLODED VIEWS

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.

- Abbreviation
  IT : Italian model
  FR : French model
  5AED : Swiss and Belgian model
  5AEC : Netherlands, Norwegian and Austrian model
  AEZ : German, Spanish and Portuguese model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.



Ref. No.	Part No.	Description	Remark
1	3-914-196-01	BUTTON (RDS)	
2	3-914-197-01	KNOB (RDS)	
3	X-3369-588-1	CABINET (UPPER) ASSY (IT, AEZ, 5AEC)	
3	X-3369-588-2	CABINET (UPPER) ASSY (UK, FR, 5AED)	
4	3-831-441-XX	CUSHION	
* 5	3-915-385-01	SHEET (A), ADHESIVE	
6	3-368-840-21	KNOB (VOL)	
7	3-914-193-01	PANEL, TRANSPARENT	
8	3-919-466-01	SHEET (BUTTON)	
9	9-911-838-XX	SHEET, RUBBER	
10	3-914-198-01	KNOB (BRIGHT)	
* 11	3-914-195-01	BUTTON, MIDDLE	
* 12	1-535-771-11	TERMINAL	
* 13	A-3662-062-A	MAIN BOARD, COMPLETE (FR, 5AED)	
* 13	A-3662-065-A	MAIN BOARD, COMPLETE (IT, AEZ, 5AEC)	
* 13	A-3662-068-A	MAIN BOARD, COMPLETE (UK)	
14	3-377-647-21	BUTTON (MODE)	
15	3-368-852-01	FOOT	
16	3-377-653-41	CABINET (LOWER) (UK, FR, 5AED)	
16	3-377-653-71	CABINET (LOWER) (IT, AEZ, 5AEC)	
17	9-911-840-XX	CUSHION	
18	3-914-547-01	REFLECTOR	
19	3-919-378-01	CUSHION (TRANS)	
20	3-919-377-01	CUSHION (ANT)	
21	7-685-649-79	SCREW +P 3X14 TYPE2 NON-SLIT	
22	3-918-998-01	PLATE (X'TAL), CONTACT	
LCD1	1-810-640-11	DISPLAY PANEL, LIQUID CRYSTAL	
⚠PC1	1-555-795-00	COAD, POWER (EXCEPT UK)	
⚠PC1	1-696-572-21	COAD, POWER (UK)	
SP1	1-503-082-00	SPEAKER (6.6CM)	

SECTION 6
ELECTRICAL PARTS LIST

MAIN

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Abbreviation
  IT : Italian model
  FR : French model
  5AED : Swiss and Belgian model
  5AEC : Netherlands, Norwegian and Austrian model
  AEZ : German, Spanish and Portuguese model

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remark
*	A-3662-062-A	MAIN BOARD, COMPLETE (FR, 5AED)			
		**********			
*	A-3662-065-A	MAIN BOARD, COMPLETE (IT, AEZ, 5AEC)			
		**********			
*	A-3662-068-A	MAIN BOARD, COMPLETE (UK)			
		**********			
*	1-535-771-11	TERMINAL			
	3-914-547-01	REFLECTOR			
		< CAPACITOR >			
C1	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C2	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C3	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C4	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C5	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C6	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C7	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C8	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C9	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C10	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C11	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C12	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C13	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C14	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C15	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C16	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C17	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C18	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C19	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C20	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C21	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C22	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C23	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C24	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C25	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C26	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C27	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C28	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C29	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C30	1-163-089-00	CERAMIC CHIP	6PF		50V

Ref. No.	Part No.	Description			Remark
C31	1-124-907-11	ELECT	10uF	20%	50V
C32	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C33	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C34	1-136-171-00	FILM	0.33uF	5%	50V
C35	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C36	1-124-472-11	ELECT	470uF	20%	10V
C37	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C38	1-126-176-11	ELECT	220uF	20%	10V
C39	1-124-472-11	ELECT	470uF	20%	10V
C40	1-124-120-11	ELECT	220uF	20%	25V
C41	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C43	1-163-133-00	CERAMIC CHIP	470PF	5%	50V (UK, FR, 5AED)
C44	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (UK, FR, 5AED)
C45	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C46	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C47	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C48	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C50	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C51	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C52	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C53	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C54	1-164-346-11	CERAMIC CHIP	1uF		16V
C55	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C56	1-124-907-11	ELECT	10uF	20%	50V
C57	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C58	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C59	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C60	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C61	1-163-101-00	CERAMIC CHIP	22PF	5%	50V (UK, FR, 5AED)
C62	1-163-089-00	CERAMIC CHIP	6PF		50V
C63	1-163-086-00	CERAMIC CHIP	3PF		50V (UK, FR, 5AED)
C64	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C65	1-163-121-00	CERAMIC CHIP	150PF	5%	50V (UK, FR, 5AED)
C66	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C67	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C68	1-163-031-11	CERAMIC CHIP	0.01uF		50V

MAIN

Ref. No.	Part No.	Description			Remark
C69	1-163-121-00	CERAMIC CHIP	150PF	5%	50V (UK, FR, 5AED)
C70	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C71	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C72	1-124-927-11	ELECT	4.7uF	20%	100V
C73	1-124-907-11	ELECT	10uF	20%	50V
C74	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C75	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C76	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V (UK, FR, 5AED)
C77	1-124-907-11	ELECT	10uF	20%	50V
C78	1-124-472-11	ELECT	470uF	20%	10V
C79	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C80	1-164-346-11	CERAMIC CHIP	1uF		16V
C81	1-126-176-11	ELECT	220uF	20%	10V
C82	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C83	1-124-927-11	ELECT	4.7uF	20%	100V
C84	1-124-907-11	ELECT	10uF	20%	50V
C85	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C86	1-163-031-11	CERAMIC CHIP	0.01uF		50V
		< FILTER >			
CF1	1-577-072-21	FILTER, CERAMIC			(IT, AEZ, 5AEC)
CF1	1-578-677-21	FILTER, CRYSTAL			(UK, FR, 5AED)
CF2	1-579-632-11	FILTER, CERAMIC			
CF3	1-579-632-11	FILTER, CERAMIC			
		< TRIMMER >			
CT1	1-141-304-21	CAP, TRIMMER	10PF		
CT2	1-141-443-11	TRIMMER, CERAMIC	30PF		(UK, FR, 5AED)
CT3	1-141-304-21	CAP, TRIMMER	10PF		
CT4	1-141-444-11	TRIMMER, CERAMIC	50PF		(UK, FR, 5AED)
		< DIODE >			
D1	8-719-104-34	DIODE	1S2836		(UK, FR, 5AED)
D2	8-719-104-34	DIODE	1S2836		(UK)
D3	8-719-200-02	DIODE	10E2		
D4	8-719-200-02	DIODE	10E2		
D5	8-719-977-00	DIODE	DTZ5.1C		
D6	8-719-104-34	DIODE	1S2836		
D7	8-719-042-10	DIODE	SLZ-235C-15		
D8	8-719-042-10	DIODE	SLZ-235C-15		
D9	8-719-042-10	DIODE	SLZ-235C-15		
D10	8-719-023-XX	DIODE	KV1563MTL-3		(UK, FR, 5AED)
D10	8-719-951-05	DIODE	KV1560		(IT, AEZ, 5AEC)
D11	8-719-042-10	DIODE	SLZ-235C-15		
D12	8-719-941-04	DIODE	SB007-03CP		
D13	8-713-100-11	DIODE	1T362		
D14	8-713-100-11	DIODE	1T362		

Ref. No.	Part No.	Description			Remark
		< IC >			
IC1	8-759-278-22	IC	uPD75308GF-R90-3B9		
IC2	8-759-065-98	IC	SAA6579T		
IC3	8-759-096-23	IC	S-80728AN-DR		
IC4	8-752-050-16	IC	CXA1019M		
IC5	8-752-323-84	IC	CXD1118M		
		< JUMPER RESISTOR >			
JR1	1-216-295-91	METAL GLAZE	0	5%	1/10W
JR2	1-216-295-91	METAL GLAZE	0	5%	1/10W
JR3	1-216-295-91	METAL GLAZE	0	5%	1/10W (IT, AEZ, 5AEC)
JR4	1-216-295-91	METAL GLAZE	0	5%	1/10W
JR5	1-216-295-91	METAL GLAZE	0	5%	1/10W (FR, IT, AEZ, 5AEC, 5AED)
JR6	1-216-295-91	METAL GLAZE	0	5%	1/10W
JR7	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR8	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR9	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR10	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR11	1-216-296-91	METAL GLAZE	0	5%	1/8W
		< COIL >			
L1	1-402-616-11	ANTENNA, FERRITE-ROD	(MW)		(IT, AEZ, 5AEC)
L1	1-501-715-11	ANTENNA, FERRITE-ROD	(LW/MW)		(UK, FR, 5AED)
L4	1-406-545-11	COIL, AIR-CORE			
L6	1-406-485-11	COIL (OSC)			
L7	1-404-341-00	TRANSFORMER, IF			(IT, AEZ, 5AEC)
L7	1-404-902-21	TRANSFORMER, IF			(UK, FR, 5AED)
L8	1-410-336-11	INDUCTOR	220uH		
L9	1-410-336-11	INDUCTOR	220uH		
L10	1-410-336-11	INDUCTOR	220uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-810-640-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< POWER CORD >			
PC1	1-555-795-00	CORD, POWER			(FR, IT, AEZ, 5AEC, 5AED)
PC1	1-696-572-21	CORD, POWER			(UK)
		< TRANSISTOR >			
Q1	8-729-901-06	TRANSISTOR	DTA144EK		
Q2	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q3	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q4	8-729-216-22	TRANSISTOR	2SA1162-G		
Q5	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2		
Q6	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q7	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q8	8-729-230-49	TRANSISTOR	2SC2712-YG		(UK, FR, 5AED)
Q9	8-729-216-22	TRANSISTOR	2SA1162-G		

Ref. No.	Part No.	Description			Remark
Q11	8-729-200-87	TRANSISTOR 2SC2714-Y (UK, FR, 5AED)			
Q12	8-729-200-87	TRANSISTOR 2SC2714-Y (UK, FR, 5AED)			
		< RESISTOR >			
R1	1-216-121-00	METAL CHIP	1M	5%	1/10W (UK, FR, 5AED)
R2	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3	1-216-121-00	METAL CHIP	1M	5%	1/10W
R4	1-216-109-00	METAL CHIP	330K	5%	1/10W
R5	1-216-097-00	METAL CHIP	100K	5%	1/10W (UK, FR, 5AED)
R6	1-216-121-00	METAL CHIP	1M	5%	1/10W (UK, FR, 5AED)
R7	1-216-097-00	METAL CHIP	100K	5%	1/10W
R8	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R37	1-216-105-00	METAL CHIP	220K	5%	1/10W
R38	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R39	1-216-097-00	METAL CHIP	100K	5%	1/10W
R40	1-216-089-91	METAL GLAZE	47K	5%	1/10W (UK, FR, 5AED)
R41	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R42	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R43	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R44	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R45	1-216-073-00	METAL CHIP	10K	5%	1/10W
R46	1-216-073-00	METAL CHIP	10K	5%	1/10W
R47	1-216-073-00	METAL CHIP	10K	5%	1/10W
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W
R49	1-216-073-00	METAL CHIP	10K	5%	1/10W
R50	1-216-073-00	METAL CHIP	10K	5%	1/10W
R51	1-216-073-00	METAL CHIP	10K	5%	1/10W
R52	1-216-073-00	METAL CHIP	10K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-073-00	METAL CHIP	10K	5%	1/10W
R56	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R57	1-216-097-00	METAL CHIP	100K	5%	1/10W
R59	1-216-001-00	METAL CHIP	10	5%	1/10W
R62	1-216-097-00	METAL CHIP	100K	5%	1/10W
R63	1-216-001-00	METAL CHIP	10	5%	1/10W
R64	1-216-097-00	METAL CHIP	100K	5%	1/10W
R67	1-216-073-00	METAL CHIP	10K	5%	1/10W
R68	1-216-073-00	METAL CHIP	10K	5%	1/10W
R69	1-216-097-00	METAL CHIP	100K	5%	1/10W
R70	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R71	1-216-073-00	METAL CHIP	10K	5%	1/10W
R72	1-216-073-00	METAL CHIP	10K	5%	1/10W
R73	1-216-073-00	METAL CHIP	10K	5%	1/10W
R75	1-216-097-00	METAL CHIP	100K	5%	1/10W
R77	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R78	1-216-073-00	METAL CHIP	10K	5%	1/10W
R79	1-216-097-00	METAL CHIP	100K	5%	1/10W
R80	1-216-073-00	METAL CHIP	10K	5%	1/10W
R81	1-216-049-00	METAL CHIP	1K	5%	1/10W
R82	1-216-049-00	METAL CHIP	1K	5%	1/10W
R84	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R85	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R87	1-216-025-00	METAL CHIP	100	5%	1/10W
R90	1-216-121-00	METAL CHIP	1M	5%	1/10W
R92	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R93	1-216-073-00	METAL CHIP	10K	5%	1/10W
R94	1-216-097-00	METAL CHIP	100K	5%	1/10W
R96	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R97	1-216-049-00	METAL CHIP	1K	5%	1/10W
R100	1-216-097-00	METAL CHIP	100K	5%	1/10W
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R105	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (UK, FR, 5AED)
R108	1-216-049-00	METAL CHIP	1K	5%	1/10W
R109	1-216-037-00	METAL CHIP	330	5%	1/10W
R110	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R114	1-216-037-00	METAL CHIP	330	5%	1/10W
R115	1-216-025-00	METAL CHIP	100	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-241-586-11	RES, VAR, CARBON 50K (VOL ◺)			
		< SWITCH >			
S1	1-552-370-00	SWITCH, SLIDE (STATION NAME)			
S2	1-552-370-00	SWITCH, SLIDE (CLOCK AUTO ADJUST)			
S3	1-554-937-11	SWITCH, KEY BOARD(RADIO OFF/ALARM RESET)			
S4	1-554-937-11	SWITCH, KEY BOARD (BAND)			
S5	1-554-937-11	SWITCH, KEY BOARD (1/A RADIO)			
S6	1-554-937-11	SWITCH, KEY BOARD (RADIO ON/SLEEP)			
S7	1-554-937-11	SWITCH, KEY BOARD (TRAFFIC INFO)			
S8	1-554-937-11	SWITCH, KEY BOARD (2/B BUZZER)			
S9	1-554-937-11	SWITCH, KEY BOARD (TIMESET/TUNE/-)			
S10	1-554-937-11	SWITCH, KEY BOARD (3)			
S11	1-554-937-11	SWITCH, KEY BOARD (TIMESET/TUNE/+)			
S12	1-554-937-11	SWITCH, KEY BOARD (SNOOZE/SLEEP OFF)			
S13	1-554-937-11	SWITCH, KEY BOARD (4)			
S14	1-554-937-11	SWITCH, KEY BOARD (5/ALARM MODE)			
S15	1-554-937-11	SWITCH, KEY BOARD (CLOCK/ENTER)			
S16	1-571-478-11	SWITCH, SLIDE (BRIGHT)			
		< TRANSFORMER >			
⚠T1	1-450-923-11	TRANSFORMER, POWER			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X1	1-579-825-11	VIBRATOR, CERAMIC (2.62MHz)	
X2	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
X3	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)	
X4	1-578-785-11	VIBRATOR, CRYSTAL (4.5MHz)	
**********			
		MISCELLANEOUS	
		**********	
* 12	1-535-771-11	TERMINAL	
LCD1	1-810-640-11	DISPLAY PANEL, LIQUID CRYSTAL	
⚠PC1	1-555-795-00	COAD, POWER (EXCEPT UK)	
⚠PC1	1-696-572-21	COAD, POWER (UK)	
SP1	1-503-082-00	SPEAKER (6.6CM)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-501-499-11	COUPLER, ANTENNA (5AED)	
	3-759-163-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN) (UK, FR, AEZ, 5AEC, 5AED)	
	3-759-163-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, , ITALIAN) (IT, 5AEC, 5AED)	
	3-759-163-51	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEZ)	
*	3-916-741-01	INDIVIDUAL CARTON (FR, 5AED)	
*	3-916-743-01	INDIVIDUAL CARTON (UK, IT, AEZ, 5AEC)	

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9-959-722-11

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

English
94H090460-1
Printed in Japan
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Published by Home A&V Products Div.
Quality Engineering Dept.